

What is claimed is:

1. A method of automatically tuning a loop-filter of a
5 phase locked loop, which loop-filter includes a
capacitance at an output of a charge pump of said
phase locked loop, and which method comprises the
steps of said charge pump providing current impulses
10 to said loop-filter, and adjusting the amplitude of
said current impulses output by said charge pump
essentially proportionally to said capacitance at
said output of said charge pump.
2. A method according to claim 1, wherein the amplitude
15 of said current impulses output by said charge pump
is adjusted by providing a bias current to said
charge pump, which bias current is adjusted
essentially proportionally to said capacitance at
said output of said charge pump.
- 20 3. A method according to claim 2, wherein said bias
current is adjusted by a switched capacitor current
generator alternating a charging direction of a
capacitor and converting a voltage across said
25 capacitor into said bias current, said capacitor
being integrated on a single integrated circuit chip
with said loop-filter and said capacitor having a
capacitance which corresponds essentially to said
capacitance at said output of said charge pump.
- 30 4. A phase locked loop comprising:
a loop-filter;

a charge pump for providing current impulses to said loop-filter, which loop-filter includes a capacitance at an output of said charge pump; and

5 a tuning component for adjusting the amplitude of current impulses output by said charge pump essentially proportionally to said capacitance at said output of said charge pump.

10 5. A phase locked loop according to claim 4, wherein said tuning component is a current generator generating a current which is adjusted essentially proportionally to said capacitance at said output of said charge pump and providing said generated current as a bias current to said charge pump.

15 6. A phase locked loop according to claim 5, wherein said current generator is a switched capacitor current generator including:
20 a capacitor, which capacitor is integrated on a single integrated circuit chip with said loop-filter and which capacitor has a capacitance which corresponds essentially to said capacitance at said output of said charge pump;

25 switching elements for alternating a charging direction of said capacitor; and

a converting element for converting a voltage across said capacitor into said bias current.

30 7. A unit comprising a phase locked loop with a loop-filter;
a charge pump for providing current impulses to said loop-filter, which loop-filter includes a capacitance at an output of said charge pump; and

a tuning component for adjusting the amplitude of current impulses output by said charge pump essentially proportionally to said capacitance at said output of said charge pump.